

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: John S. Babcook et al.

Docket No. ABX-226-US-NP

Patent No.: 7,285,269

Group Art Unit No.: 1644

Issued: October 23, 2007

Examiner: Zachary Skelding and
Phillip Gambel

For: ANTIBODIES DIRECTED TO TUMOR NECROSIS FACTOR

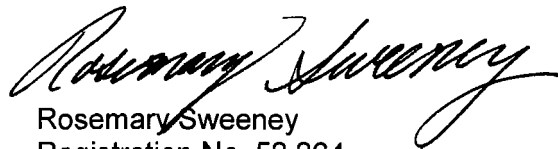
CERTIFICATE OF CORRECTION UNDER
37 CFR §§ 1.322 AND 1.323

ATTN: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Enclosed is a Certificate of Correction on an appropriate form. Applicants believe that it corrects errors by both the Office and by Applicants. Applicants do not believe that these corrections add any new matter to the patent. A number of sequences are added to the sequence listing. These sequences were part of the sequence listing submitted on November 28, 2006. The sequences themselves were disclosed in the application-as-filed, although they were not originally part of the sequence listing. Hence, Applicants do not believe that the added sequences constitute new matter. The Office is hereby authorized to charge the fee of \$100 to Deposit Account No. 01-0519 for this Certificate of Correction. If further fees are due, the examiner is hereby authorized to charge such fees to the same deposit account.

Sincerely,



Rosemary Sweeney
Registration No. 52,264
Direct Dial No. (206) 265-7817
Date: April 22, 2010

Amgen Inc.
Law Department
1201 Amgen Court West
Seattle, WA 98119
Telephone (206) 265-7000

CERTIFICATE OF EFS-Web TRANSMISSION

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being transmitted electronically through EFS-Web to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313, on the date indicated below:

/Kathleen F. Prindle/
Kathleen F. Prindle

April 22, 2010
Date

UNITED STATES PATENT AND TRADEMARK OFFICE

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PATENT NO. : 7,285,269
APPLICATION NO. : 10/727,155
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 1 (title page), under "Foreign Patent Documents, please insert --EP 0 614 984 A, 09-14-1994, Miles Inc.

On page 3 (title page), under "non Patent Literature Documents" please insert:

--Baselga et al. *Journal of clinical Oncology*. 18(4):904-914 (2000).

Glennie et al. *Immunology Today*. 21(8):403-410 (2000).

Kempeni. *Annals of the Rheumatic Diseases*. 58(3):170-172 (1999).

Kempeni. *Annals of the Rheumatic Diseases*. 59(Supp. 1):144-145 (2000).

Mukhtyar et al. *Journal of Forensic Sciences*. 64(Supp. 4):31-36 (2005).

Taylor. *Current Opinion in Rheumatology*. 13(3):164-169 (2001).--.

On page 3, Col. 1, 14th line under the heading "Other Publications", please delete "Characterizaion" and insert --Characterization--, therefor.

On page 3, Col. 1, 25th line under the heading "Other Publications", please delete "Appliation" and insert --Application--, therefor.

On page 3, Col. 1, 31st line under the heading "Other Publications", please delete "Immuniation" and insert --Immunization--, therefor.

On page 3, Col. 1, 46th line under the heading "Other Publications", please delete "Pseudomanas" and insert --Pseudomonas--, therefor.

On page 3, Col. 2 (Other Publications), line 9, please delete "Sciencesl" and insert --Sciences--, therefor.

On page 3, Col. 2 (Other Publications), line 12, please delete "Lipopolysacchardie" and insert --Lipopolysaccharide--, therefor.

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On page 3, Col. 2 (Other Publications), line 18, please delete "LPS-induced" and insert --LPS-Induced--, therefor.

On page 3, Col. 2 (Other Publications), line 44, please delete "libraries," and insert --libraries."--, therefor.

On page 3, Col. 2 (Other Publications), line 65, please delete "7(3)251" and insert --7(3):251--, therefor.

In Col. 2, line 41, before "SEQ" please insert -- (--.

In Col. 2, line 44, please delete "lie" and insert --Ile--, therefor.

In Col. 2, line 55, please delete "(CDR 1)" and insert --(CDR1)--, therefor.

In Col. 3, line 14, please delete "lie" and insert --Ile--, therefor.

In Col. 3, line 45, please delete "of"Val" and insert --of "Val --, therefor.

In Col. 3, line 54, please delete "Gin" and insert --Gln--, therefor.

In Col. 3, line 59, please delete "of"Gln" and insert --of "Gln --, therefor.

In Col. 4, line 3, please delete "of"Gly" and insert --of "Gly --, therefor.

In Col. 4, line 14, please delete "of"Gly" and insert --of "Gly --, therefor.

In Col. 7, line 19, please delete "cell" and insert --cells--, therefor.

In Col. 18, line 21, please delete "understood." and insert ---understood --, therefor.

In Col. 20, line 11, please delete "J" and insert --J. --, therefor.

In Col. 26, line 66, please delete "FRI" and insert --FR1--, therefor.

In Col. 31, line 3, please delete "described,the" and insert --described the--, therefor.

In Col. 35, line 2, please delete "(EDC.," and insert --(EDC, --, therefor.

In Col. 40, line 5, please delete "HA½" and insert --½ HA--, therefor.

In Col. 40, line 12, please delete NaHCO_{38.4}" and insert --NaHCO₃ 8.4--, therefor.

In Col. 42, line 12, please delete "Isoptype" and insert --Isotype--, therefor.

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In Col. 43, line 34, please delete "0.0" and insert --0.01--, therefor.

In Col. 43, line 45, please delete "5 μ L" and insert --50 μ L--, therefor.

In Col. 44, lines 44-45, please delete "Neutralization of - - - Assay" and insert the same on Line 45 as a Heading of the next paragraph.

In Col. 45, line 15, please delete "poptosis" and insert --Apoptosis--, therefor.

In Col. 60, line 16, please delete "Structual Analysi" and insert --Structural Analysis--, therefor.

In Cols. 59-64 (Table 31), please delete all of Table 31 and insert the attached Table 31 therefor.

In Cols. 63-66 (Table 32), please delete all of Table 32 and insert the attached Table 32 therefor.

In Cols. 65-74 (Table 33), please delete all of Table 33 and insert the attached Table 33 therefor.

In Cols. 73-82 (Table 34), please delete all of Table 34 and insert the attached Table 34 therefor.

In Col. 81, line 28, please delete "Detemination" and insert --Determination--, therefor.

In Col. 81, line 46, please delete "immunoglobuins" and insert --immunoglobulins--, therefor.

In Col. 301, please insert:

--<210> 321
<211> 5
<212> PRT
<213> Homo sapiens

<400> 321
Ser Tyr Asp Met His
1 5

<210> 322
<211> 17
<212> PRT
<213> Homo sapiens

<400> 322
Val Ile Trp Ser Asp Gly Ser Ile Lys Tyr Tyr Ala Asp Ser Val Lys

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1	5	10	15
Gly			

```
<210> 323
<211> 16
<212> PRT
<213> Homo sapiens

<400> 323
Glu Val Glu Ser Ala Met Gly Gly Phe Tyr Tyr Asn Gly Met Asp Val
 1           5           10          15
```

```
<210> 324
<211> 11
<212> PRT
<213> Homo sapiens
```

```
<400> 324
Arg Ala Ser Gln Gly Ile Arg Ile Asp Leu Gly
  1             5             10
```

```
<210> 325
<211> 7
<212> PRT
<213> Homo sapiens
```

```
<400> 325
Ala Ala Ser Thr Leu Gln Ser
  1             5
```

```
<210> 326
<211> 9
<212> PRT
```

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<213> Homo sapiens

<400> 326

Leu Gln His Lys Ser Tyr Pro Leu Thr
1 5

<210> 327

<211> 5

<212> PRT

<213> Homo sapiens

<400> 327

Arg Asn Tyr Met Ser
1 5

<210> 328

<211> 16

<212> PRT

<213> Homo sapiens

<400> 328

Val Ile Tyr Ser Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly
1 5 10 15

<210> 329

<211> 7

<212> PRT

<213> Homo sapiens

<400> 329

Gly Glu Gly Gly Phe Asp Tyr
1 5

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<210> 330
<211> 11
<212> PRT
<213> Homo sapiens

<400> 330
Arg Ala Ser Gln Ser Val Ser Ser Asn Leu Ala
1 5 10

<210> 331
<211> 7
<212> PRT
<213> Homo sapiens

<400> 331
Gly Ala Ser Ile Arg Ala Thr
1 5

<210> 332
<211> 8
<212> PRT
<213> Homo sapiens

<400> 332
Gln Gln Tyr Asn Tyr Trp Trp Thr
1 5 --.

In Col. 301, line 35, Claim 2, please delete "antibody;" and insert --antibody--, therefor.

In Col. 301, line 36, Claim 2, after "claim 1" insert -- , --.

In Col. 301, line 39, Claim 3, after "claim 1" insert -- , --.

In Col. 301, line 53, Claim 8, please delete "bindivg" and insert --binding--, therefor.

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In Col. 301, line 54, Claim 8, after “thereof”, please insert -- , --.

In Col. 301, line 54, Claim 8, please delete “light” and insert ---heavy---, therefor.

In Col. 301, line 55, Claim 8, please delete “heavy” and insert ---light---, therefor.

In Col. 302, line 29, Claim 13, please delete “light” and insert ---heavy---, therefor.

In Col. 302, line 30, Claim 13, please delete “heavy” and insert ---light---, therefor.

In Col. 302, line 32, Claim 13, please delete “wherein,” and insert --wherein--, therefor.

In Col. 302, line 42, Claim 17, please delete “radioistope” and insert --radioisotope-- , therefor.

In Col. 302, line 66, Claim 25, after “claim 13” please insert -- , --.

In Col. 303, line 13, Claim 26, after “(CDR3)” please insert --comprising--.

In Col. 303, line 18, Claim 26, please delete “Len” and insert --Leu--, therefor.

In Col. 303, line 24, Claim 26, after “(CDR3)” please insert --comprising--.

In Col. 303, line 24, Claim 26, please delete “Gin” and insert --Gln--, therefor.

In Col. 303, line 26, Claim 27, after “thereof”, please insert -- , --.

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Table 31. XENOMAX® Heavy Chain Analysis

SEQ ID NO:	Single cell	V Heavy/D/J	FR1	CDR1	FR2
267	-	Germline	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYGMH	WVRQAPGKGLEWVA
74	299 v. 2	VH3-33/D5-5/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYDMH	WVRQAPGKGLEWVA
70	299 v. 1	VH3-33/D5-5/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYDMH	WVRQAPGKGLEWVA
38	148	VH3-33/D5-5/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	NYDMH	WVRQAPGKGLEWVA
78	313	VH3-33/D5-24/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	NHDIH	WVRQAPGKGLEWVA
6	15	VH3-33/D6-6/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYDIH	WVRQAPGKGLEWVA
22	95	VH3-33/D6-19/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	NYDMH	WVRQAPGKGLEWVA
268	-	Germline	EVQLVESGGGLIQPGSRLRLSCAASGFTVS	SNYMS	WVRQAPGKGLEWVS
46	250	VH3-53/D3-16/JH4b	EVQLVESGGGLIQPGSRLRLSCAASGFTVS	SNYMS	WVRQAPGKGLEWVS
50	263	VH3-53/D3-16/JH4b	EVQLVESGGGLIQPGSRLRLSCAASGFTVS	RNYMS	WVRQAPGKGLEWVS
54	269	VH3-53/D3-16/JH4b	EVQLVESGGGLIQPGSRLRLSCAASEFTVS	RNYMS	WVRQAPGKGLEWVS
269	-	Germline	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYGMH	WVRQAPGKGLEWVA
58	280	VH3-33/D4-17/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTVS	SYGMH	WVRQAPGKGLEWVA
62	282	VH3-33/D4-17/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTVS	SYGMH	WVRQAPGKGLEWVA
66	291	VH3-33/D1-26/JH6b	QVQLVESGSGVVQPGRSRLRLSCAASGFTFS	NYGIH	WVRQAPGKGLEWVA
270	-	Germline	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYGMH	WVRQAPGKGLEWVA
42	234	VH3-30/D1-26/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYDMH	WVRQAPGKGLEWVA
34	140	VH3-30/D1-20/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	SYGMH	WVRQAPGKGLEWVA
14	28	VH3-30/D3-3/JH6b	QVQLVESGGGVVQPGRSRLRLSCAASGFTFS	NYGMH	WVRQAPGKGLEWVT
271	-	Germline	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SYIWS	WIRQHPGKGLEWIG
18	69	VH4-4/D2-2/JH2	QVQLQESGPGLVKPSQTLSTCTVSGGSIN	HYIWS	WIRQHPGKGLEWIG
272	-	Germline	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SGIYWS	WIRQHPGKGLEWIG
2	2	VH4-31/D1-20/JH6b	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SGIYWS	WIRQHPGKGLEWIG
10	25	VH4-31/D1-20/JH6b	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SGIYWS	WIRQHPGKGLEWIG
30	131	VH4-31/D1-20/JH6b	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SGIYWS	WIRQHPGKGLEWIG
26	123	VH4-31/D1-20/JH6b	QVQLQESGPGLVKPSQTLSTCTVSGGSIS	SGIYWS	WIRQHPGKGLEWIG

SEQ ID No:	single cell	CDR2	FR3	CDR3	FR4
267	-	VIWYDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR		WGQGTTTVTVSS
74	299 v. 2	VIWSDGSIKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	EVESAMGGFFYNGMDV	WGQGTTTVTVSS
70	299 v. 1	VIWSDGSIKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	EVESAMGGFFYNGMDV	WGQGAITVTVSS
38	148	VIWYDGSIKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYFCAR	ETAILRGYYYYYDMDV	WGQGTTTVTVSS
78	313	VIWSDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	EKMATIKGYYYYYGMDV	WGQGTTTVTVSS
6	15	VIWYDGSIKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	EEQLVRGGYYYYYGMDV	WGQGTTTVTVSS
22	95	VIWYDGSIKYYADSVKG	RFTISRDN SKNTLHLQMNSLRAEDTAVYYCAR	EIAVAGGYYYYYGLDV	WGQGTTTVTVSS
268	-	VIYSGGSTYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR		WGQGITTVTVSS
46	250	VIYSGDRITYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	GEGGFYD	WGQGITTVTVSS
50	263	VIYSGDRITYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	GEGGFYD	WGQGITTVTVSS
54	269	VIYSGDRITYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	GEGGFYD	WGQGITTVTVSS
269	-	VIWYDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR		WGQGITTVTVSS
58	280	VIWSNGSNKYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	DNGVYVVGYYAAYYGMVDV	WGQGITTVTVSS
62	282	VIWSNGSNKYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	DNGVYVVGYYAAYYGMVDV	WGQGITTVTVSS
66	291	VIWSDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	ELPNSGSGSYGYYYYGMDV	WGQGITTVTVSS
270	-	VISYDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR		WGQGITTVTVSS
42	234	VISYDGSIKYYADSVKG	RFTISRDN SKNTLYLQVNSLRAEDTAVYYCAR	EVRSGSYYYYYGMDV	WGQGITTVTVSS
34	140	VISYDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR	DQDNWNYYGMDV	WGQGITTVTVSS
14	28	IISYDGSNKYYADSVKG	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCVT	YYDFWSGVLPGMVDV	WGQGITTVTVSS
271	-	RIYTSGSTINYNP SLKS	RVIMSVDT SKNQFSLKLS SVTAA DTAVYYCAR		WGRGITTVTVSS
18	69	RIYPTGSTINYNP SLKS	RVIMSVDT SKNQFSLKLS SVTAA DTAVYYCAG	GWSYWYFDL	WGRGITTVTVSS
272	-	YIYSGSTYYNP SLKS	RVTLISVDTSKNQFSLKLS SVTAA DTAVYYCAR		WGQGITTVTVSS
2	2	NIYSGSTYYNP SLKS	RVTLISVDTSKNQFSLKLS SVTAA DTAVYYCAR	DSNQYNMNDEVDYDGLDV	WGQGITTVTVSS
10	25	NIYSGSTYYNP SLKS	RVTLISVDTSKNQFSLKLS SVTAA DTAVYYCAR	DSNQYNMNDEVDYDGLDV	WGQGITTVTVSS
30	131	NIYSGSTYYNP SLKS	RVTLISVDTSKNQFSLKLS SVTAA DTAVYYCAR	DSNQYNMNDEVDYDGLDV	WGQGITTVTVSS
26	123	NIYSGSTYYTP SLKS	RVTLISVDTSKNQFSLKLS SVTAA DTAVYYCAR	DSNQYNMNDEVDYDGLDV	WGQGITTVTVSS

Table 31, 2

Table 32. XENOMAX® Light Chain Analysis

SEQ ID NO:	Single Cell	V Kappa/J	FR1	CDR1	FR2
273	-	Germline	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
72	299	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRIDLG	WYQQKPGKAPKRLTY
80	313	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
68	291	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
44	234	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQDIRNDLG	WYQQKPGKAPKRLTY
4	2	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
12	25	A30VK1/JK4	DIQMTQSPSSLSASVDRVTITC	RASQGIRNDLG	WYQQKPGKAPKRLTY
32	131	A30VK1/JK4	DIQMTQSPSALSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
8	15	A30VK1/JK4	DIQMTQSPSSLSASIGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
24	95	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
40	148	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLIS
28	123	A30VK1/JK4	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
274	-	Germline	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
60	280	A30VK1/JK1	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
64	282	A30VK1/JK1	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLG	WYQQKPGKAPKRLTY
16	28	A30VK1/JK1	DIQMTQSPSSLSASVGDRTTTC	RASQGIRNDLT	WYQQKPGKAPKRLTY
275	-	Germline	DVVMTQSPLSLPVTLGQPASISC	RSSQSLVYSDGNTYLN	WFQQRPGQSPRRITY
20	70	A1VK2/JK4	DVVMTQSPLSLPVTLGQPASISC	RSSQSLVYSDGSTYLN	WFQQRPGQSPRRITY
276	-	Germline	DIVMTQSPLSLPVTPGEPASISC	RSSQSLLSHNGYNYLD	WYLQKPGQSPQLITY
36	145	A19VK2/JK1	DIVMTQSPLSLPVTPGEPASISC	RSSQSLLSHNGYNYLD	WYLQKPGQSPQLLIF
277	-	Germline	EIVMTQSPATLSVSPGERATLSC	RASQSVSSNLA	WYQQKPGQAPRLITY
48	250	L2VK3/JK1	EIVMTQSPATLSVSPGERATLSC	RASQSVTSNLA	WYQQKPGQAPRLLIH
52	263	L2VK3/JK1	EIVMTQSPATLSVSPGERATLSC	RASQSVSSNLA	WYQQKPGQAPRLLIH
56	269	L2VK3/JK1	EIVMTQSPATLSVSPGERATLSC	RASQSVSSNLA	WYQQKPGQAPRLLIH

SEQ ID NO:	single Cell	CDR2	FR3	CDR3	FR4
273	-	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
72	299	AASTLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFASYC	LQHKSYPLT	FGGGTKVEIK
80	313	AASSLES	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIQ
68	291	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHCCYPLT	FGGGTKVEIK
44	234	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4	2	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNNYPLT	FGGGTKVEIK
12	25	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
32	131	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHKSYPLT	FGGGTKVEIK
8	15	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
24	95	AASSLQS	GVPSRFSGSGSGTEFTLTITVSSLQPEDFATYYC	LQHHSYPLT	FGGTKVQIN
40	148	AASSLQG	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
28	123	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNNYPLT	FGGGTKVEIK
274	-	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPWT	FGQGTKVEIK
60	280	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPRT	FGQGTKVEIK
64	282	AASSLHS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSYPWT	FGQGTKVEIK
16	28	AASSLQS	GVPSRFSGSGSGTEFTLTITSSLQPEDFATYYC	LQHNSFPWT	FGQGTKVEIK
275	-	KVWNWDS	GVDPDRFSGSGSGTDFTLKISRVEAEDVGVIYC	MQGTHWP##LT	FGGGTKVEIK
20	70	KVWNWDS	GVDPDRFSGSGSGTDFTLKISRVEAEDVGVIYC	MQGSHWPREFT	FGGGTKVEIK
276	-	LGSNRAS	GVDPDRFSGSGSGTDFTLKISRVEAEDVGVIYC	MQALQTWT	FGQGTKVEIK
36	145	LGSYRAS	GVDPDRFSGSGSGTDFTLKISRVEAEDVGVIYC	MQALQTWT	FGQGTKVEIK
277	-	GASIRAT	GIPARFSGSGSGTEFTLTITSSLQSEDFAVIYC	QQYNNNWT	FGQGTKVEIK
48	250	GASIRAT	GLPARFSGSGSGTEFTLTITSSLQSEDFAVIYC	QQYNYWWT	FGQGTKVEIK
52	263	GASIRAT	GLPARFSGSGSGTEFTLTITSSLQSEDFAVIYC	QQYNYWWT	FGQGTKVEIK
56	269	GASIRAT	GLPARFSGSGSGTEFTLTITSSLQSEDFAVIYC	QQYNYWWT	FGQGTKVEIK

Table 32, 2

Table 33. Hybridoma Heavy Chain Analysis AB-TNF α -XG2

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
	278	Germline	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTTLVTVSS
2.14	132	VH3-33/D6- 19/JH6b	QVQLVESGGGVVQPGRSRLRS CAAS	GLIFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ERDSSGWYYYG MDV	WGQGTTLVTVSS
2.13	128	"	QVQLVESGGGVVQPGRSRLRS CAAS	GLIFSNYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	EGIAVAGPPYY YYGMDV	WGQGTTLVTVSS
2.10	124	"	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ERDSSGWYYYG MDV	WGQGTTLVTVSS
	279	Germline	EVQLLESGGGLVQPGGSLRLS CAAS	GFTFSSYAMS	WVRQAPGKGLE WVS	AISGGSGSTYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAK		WGQGTTLVTVSS
4.23	262	VH3-23/D3- 22/JH4b	EVQLLESGGGLVQPGGSLRLS CAAS	GFTFSSYAMS	WVRQAPGKGLE WVS	AISGGSGSTYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAK	DYDSSGYHPF DY	WGQGTTLVTVSS
	280	Germline	EVQLVESGGGLVKPQGGSLRLS CAAS	GFTFSSYSMN	WVRQAPGKGLE WVS	SISSSSSYYYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCA#		WGQGTTLVTVSS
2.21	158	VH3-21/D1- 20/JH6b	EVQLVESGGGLVKPQGGSLRLS CAAS	GFTFSSYSMN	WVRQAPGKGLE WVS	SISSSSSYYYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	GGITGTTNYYG MDV	WGQGTTLVTVSS
	281	Germline	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTTLVTVSS
4.7	198	VH3-33/D6- 19/JH4b	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	IIWYDGSNEYY GDSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	DPLRIVVAGDF DY	WGQGTTLVTVSS
4.11	214	"	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	IIWYDGSNEYY GDSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	DPLRIVVAGDF DY	WGQGTTLVTVSS
	282	Germline	EVQLVESGGGLIQQPGGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTMTVTVSS
3.9	186	VH3-53/-/-/JH3b	EVQLVESGGGLIQQPGGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	GPQAFDI	WGQGTMTVTVSS
3.8	182	"	EVQLVESGGGLIQQPGGSLRLS CAAS	GFTVSSNNYMH	WVRQAPGKGLE WVS	VIYSGGNTYYA DSVKG	RFTISRDNKNTLYLQMNLSR TEDTAVYYCAR	GPQAFDI	WGQGTMTVTVSS
	283	Germline	EVQLVQSGAEVKKPKGESLKIS CKGS	GYSTFSYWG	WVRQMPGKGLE WMG	IIYPGDSDFRY SPSPQG	QVTISADKSI STAYLQWSSLK ASDTAMYYCAR		WGQGTTLVTVSS
2.4	100	VH5-51/D3-3/JH6b	EVQLVQSGAEVKKPKGESLKIS CKGS	GYSTFSDWG	WVRQMPGKGLE WMG	IIYPGDSDFRY SPSPQG	QVTISADKSI TAYLQWSSLK ASDTAMYYCAR	SGYGMV	WGQGTTLVTVSS
	284	Germline	QVQLVQSGAEVKKPKGASVKVS CKAS	GYTFTSYGIS	WVRQAPGQGLE WMG	WISAYNGNTNY AQKLQG	RVTMTTDTSTSTAYMELRSLR SDDTAVYYCAR		WGQGTTLVTVSS
3.4	170	VH1-18/D6- 19/JH4b	QVQLVQSGAEVKKPKGASVKVS CKAS	GYTFTFYISIT	WVRQAPGQGLE WMG	WISAYNDNTNY AQKLQG	RVTMTTDTSTSTAYMELRSLR SDDTAVYYCAR	TFTSGFDY	WGQGTTLVTVSS
	285	Germline	QVQLVESGGGVVQPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTTLVTVSS

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
2.3	96	VH3-33/D4-23/JH4b	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMN	WVRQAPGKGLE WVA	VIWYDGSNKYY GDSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ESDYGGNPYFD Y	WGQGTILVTVSS
4.8	202	"	QVHLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWHDGSKNYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCTR	ESDYGGYPYFD Y	WGQGITLVTVSS
4.4	194	"	QVHLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWHDGSKNYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCTR	ESDYGGYPYFD Y	WGQGITLVTVSS
4.3	190	"	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ESDYGGNPYFD Y	WGQGTILAAVSS
	286	Germline	EVQLVESGGGLIQPGGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTILVTVSS
2.17	144	VH3-53/D7-27/JH4b	EVQLVESGGGLIQPGGSLRLS CAAS	GFTVSSNYVN	WVRQAPGKGLE WVS	VIYNAGSAYYA DSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	GTGAFDY	WGQGTILVTVSS
	287	Germline	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTITVTVSS
4.13	222	VH3-30/D4-17/JH6b	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYDMH	WVRQAPGKGLE WVA	IIISYDGSIKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ENAVTYGGYYH YGM DV	WGQGTITVTVSS
	288	Germline	QVQLVESGGGLVKPGGSLRLS CAAS	GFTFSDYYMS	WVRQAPGKGLE WVS	YISSSGSTIYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTITVTVSS
1.1	84	VH3-11/-/-/JH6b	QVQLVESGGGLVKPGGSLRLS CAAS	GFTFSDYYMS	WVRQAPGKGLE WVS	YISRSGSTIYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	SLGGMDV	WGQGTITVTVSS
2.16	140	"	QVQLVESGGGLVKPGGSLRLS CAAS	GFTFSDYYMS	WVRQAPGKGLE WVS	YISRSGSTIYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	SLGGMDV	WGQGTITVTVSS
2.18	148	"	QVQLVESGGGLVKPGGSLRLS CAAS	GFTFSDYYMS	WVRQAPGKGLE WVS	YISRSGSTIYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	SLGGMDV	WGQGTITVTVSS
	289	Germline	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTITVTVSS
4.12	218	VH3-33/D4-17/JH6b	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ETTVTKEGYYY YGM DV	WGQGTITVTVSS
4.9	206	"	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR	ETTVTKEGYYY YGM DV	WGQGTITVTVSS
	290	Germline	QVQLVQSGAEVKKPGASVKVS CKAS	GYTFTSYGIS	WVRQAPGQGLE WVG	WISAYNGNTNY AQKLQG	RVTMTTDTSTSTAYMELRSLR SDDTAVYYCAR		WGQGTILVTVSS
2.6	108	VH1-18/D1-7/JH4b	QVQLVQSGAEVKKPGASVKVS CKAS	GYTFTSYGIS	WVRQAPGQGLE WVG	WISAYNVNTNY AQKLQG	RVTMTTDTSTNTAYMELRSLR SDDTAVYYCAR	DEITETMEDYF DY	WGQGTILVTVSS
	291	Germline	EVQLVQSGAEVKKPGESLKIS CKGS	GYSTFSYIWG	WVRQMPGKGLE WVG	IIYPGDSPTRY SPSPQG	QVTISADKSIISTAYLQWSSLK ASDTAMYYCAR		WGQGTILVTVSS
3.2	166	VH5-51/D7-27/JH4b	EVQLVQSGAEVKKPGESLKIS CKTS	GYSTFSYIWG	WVRQMPGKGLE WVG	IIVLGDSPTRY SPSPQG	QVTISADKSIISTAYLQWSSLK ASDTAMYYCAR	SNWGLDY	WGQGTILVTVSS
	292	Germline	QVQLVESGGGVQPGPGRSRLRS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSR AEDTAVYYCAR		WGQGTITVTVSS

Table 33, 2

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
4.16	234	VH3-33/D2-21/JH6b	QVQLVESGGGVVQPGRSRLRLS CTTS	GFTFSNYGMH	WVRQAPGKGLE WVA	VIWYDGSIKYY VDSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	EKDCGGDCYSH YGM DV	WGQGTTLVTVSS
4.15	230	"	QVQLVESGGGVVQPGRSRLRLS CTTS	GFTFSNYGMH	WVRQAPGKGLE WVA	VIWYDGSIKYY VDSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	EKDCGGDCYSH YGM DV	WGQGTTLVTVSS
4.14	226	"	QVQLVESGGGVVQPGRSRLRLS CTTS	GFTFSNYGMH	WVRQAPGKGLE WVA	VIWYDGSIKYY VDSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	EKDCGGDCYSH YGM DV	WGQGTTLVTVSS
4.17	238	"	QVQLVESGGGVVQPGRSRLRLS CTTS	GFTFSNYGMH	WVRQAPGKGLE WVA	VIWYDGSIKYY VDSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	EKDCGGDCYSH YGM DV	WGQGTTLVTVSS
293		Germline	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR		WGQGTTLVTVSS
2.1	88	VH3-33/-/-/JH6b	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSSGMH	WVRQAPGKGLE WVA	IIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	DDYYYGMDV	WGQGTTLVTVSS
294		Germline	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR		WGQGTTLVTVSS
2.2	92	VH3-33/D4-23/JH4a	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	ESDYGGNPFYD Y	WGQGTTLVTVSS
295		Germline	QVQLQESGPGLVKPSSETLSLT CTVS	GGSSSSYYWS	WIRQPPGKGLE WIG	YIYVSGSTNYN PSLS	RVTISVDTSKNQPSLKLSVT AADTAVYYCAR		WGQGTTLVTVSS
3.6	178	VH4-59/D6-19/JH4b	QVQLQESGPGLVKPSSETLSLT CTVS	GGSSSSYYWS	WIRQPPGKGLE WIG	YFYVSGSTNYN PSLS	RVTISVDTSKNQPSLKLSVT AADTAVYYCAR	DRFTSGWFDY	WGQGTTLVTVSS
296		Germline	EVQLVESGGGLVQPGGSLRLS CAAS	GFTFSSYSMN	WVRQAPGKGLE WVS	YISSSSSTIYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR		WGQGTTLVTVSS
4.22	258	VH3-48/D1-14/JH4b	EVQLVESGGGLVQPGGSLRLS CAAS	GFTFSNYGMN	WVRQAPGKGLE WVS	YISNSITSKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR DVEDTAVYH CAR	GPGGFDY	WGQGTTLVTVSS
297		Germline	EVQLVESGGGLVQPGGSLRLS CAAS	GFTVSSSNYMS	WVRQAPGKGLE WVS	YIYSGGSTYYA DSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR		WGQGTTLVTVSS
2.9	120	VH3-53/-/-/JH4b	EVQLVESGGGLVQPGGSLRLS CAAS	GFTVSSSNYMS	WVRQAPGKGLE WVS	YIYSGGSTYYA DSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	GPGSFDY	WGQGTTLVTVSS
298		Germline	QVQLVQSGAEVKKPGASVKVS CKAS	GYTFTGYMH	WVRQAPGQGLE WMG	WINPNSGGTNY AQKFGQ	RVMTMTRDTSISTAYMELSRLLR SDDTAVYYCAR		WGQGTTLVTVSS
3.1	162	VH1-2/D6-19/JH6b	QVQLVQSGAEVKKPGASVKVS CKAS	GYTFTGYMH	WVRQAPGQGLE WMG	WINPNSGGTNY AQKFGQ	RVMTMTRDTSISTAYMELSRLLR SDDTAVYYCAR	APLWTIVRSWYY YGM DV	WGQGTTLVTVSS
299		Germline	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR		WGQGTTLVTVSS
4.19	246	VH3-33/D3-9/JH6b	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGRNKYN ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	DLTYDYDILGGM DV	WGQGTTLVTVSS
4.18	242	"	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGRNKYN ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	DLTYDYDILGGM DV	WGQGTTLVTVSS
2.8	116	"	QVQLVESGGGVVQPGRSRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGRNKYN ADSVKG	RFTISRDNKNTLYLQMNLSLR AEDTAVYYCAR	DLTYDYDILGGM DV	WGQGTTLVTVSS

Table 33, 3

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
4.20	250	"	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGRNKYN ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	DLTYDYDILGGM DV	WGQGT'TVTVSS
2.7	112	"	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGRNKYN ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	DLTYDYDILGGM DV	WGQGT'TVTVSS
	300	Germline	EVQLVESGGGLIQPGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR		WGQGT'TVTVSS
2.19	152	VH3-53/-/JH6b	EVQLVESGGGLIQPGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	GEGGMDV	WGQGT'TVTVSS
2.15	136	"	EVQLVESGGGLIQPGSLRLS CAAS	GFTVSSNYMS	WVRQAPGKGLE WVS	VIYSGGSTYYA DSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	GEGGMDV	WGQGT'TVTVSS
	301	Germline	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR		WGQGT'TVTVSS
2.5	104	VH3-33/D3-10/JH6b	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYDMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	ENTMVRGGDY YGM DV	WGQGT'TVTVSS
3.5	174	"	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYDMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	ENTMVRGGDY YGM DV	WGQGT'TVTVSS
	302	Germline	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR		WGQGT'TVTVSS
4.10	210	VH3-33/D4-17/JH5b	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	SRYGDMGWFD	WGQGT'TVTVSS
	303	Germline	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR		WGQGT'TVTVSS
4.21	254	VH3-33/D6-19-D7-27/JH6b	QVQLVESGGGVVQPGRLRLS CAAS	GFTFSSYGMH	WVRQAPGKGLE WVA	VIWYDGSNKYY ADSVKG	RFTISRDN SKNTLYLQMNSLR AEDTAVYYCAR	GNRVVAVAGTRV TPANWGYYYG MDV	WGQGT'TVTVSS

Table 33, 4

Table 34. Hybridoma Light Chain Analysis AB-TNF α -XG2K

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
	304	Germline	QSVLTQPPSVSGAPGQRTVIS C	TGSSNIGAGY DVH	WYQQLPGTAPK LLIY	GNSNRPS	GVPRFSGSKSGTASLAITG LQAEDEADYYC	QSYDSSLGSGV	FGGGTKLTVL
2.4	102	V1-13/JL2	QSLLTQPPSVSGAPGQRTVIS C	TGSSNIGAGY DVH	WYQQPPGTAPK LLIY	GNSNRPS	GVPRFSGSKSGTASLAITG LQAEDEADYYC	QSYDSSLGSGV	FGGGTKLTVL
4.7	200	"	QSVLTQPPSVSGAPGLRVTVIS C	TGSSNIGAGY DVH	WYQQLPGTAPK LLIY	GNSNRPS	GVPRFSGSKSGTASLAITG LQAEDETDYYC	QSYDSSLGSGV	FGGGTKLTVL
	305	Germline	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4.9	208	A30/JK4	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4.21	256	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK CLLIY	VASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4.20	252	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRHDLG	WYQQKPGRAPE RLIY	GASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4.17	240	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHMSLPLT	FGGGTKVEIK
4.16	236	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHMSLPLT	FGGGTKVEIK
2.14	134	"	DIQMTQSPSSLSASVGDRTVI TC	RASQAIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFASYYC	LQHRSYPLT	FGGGTKVEIK
4.15	232	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHMSLPLT	FGGGTKVEIK
3.9	188	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WFQQKPGKAPK RLIY	AASNFLS	GVPSRFSGSGSGTEFTLTSS LQPEDFTYYC	LQHNPPRPLT	FGGGTKVEIK
4.14	228	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHMSLPLT	FGGGTKVEIK
4.13	224	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
4.12	220	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
2.10	126	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPGKAPK RLIY	AASSLQS	GVPSRFSGSGSGTEFTLTSS LQPEDFATYYC	LQHNSLPLT	FGGGTKVEIK
3.6	180	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPRKAPK RLIF	AASSLQS	GVPSRFSGSGSGPEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK
3.5	176	"	DIQMTQSPSSLSASVGDRTVI TC	RASQGIRNDLG	WYQQKPRKAPK RLIF	AASSLQS	GVPSRFSGSGSGPEFTLTSS LQPEDFATYYC	LQHNSYPLT	FGGGTKVEIK

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
	306	Germline	DIQMTQSPSSLSASVGDRTVITC	RASQGISNYLA	WYQKPGKVPK LLIY	AASITLQS	GVPSRFSGSGGTDFLTITISS LQPEDVATYYC	QKYNAPFT	FGPGTKVDIK
4.23	264	A20/JK3	DIQMTQSPSSLSASVGDRTVITC	RASQGISNYLA	WYQKPGKVPK FLIY	AASITLQS	GVPSRFSGSGGTDFLTIVSS LQPEDVATYYC	QMYSVPFT	FGPGTKVDIK
	307	Germline	DIQMTQSPSSLSASVGDRTVITC	RASQIRNDLG	WYQKPGKAPK RLIY	AASSILQS	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	LQHNSYPWT	FGQGTKVEIK
4.22	260	A30/JK1	DIQMTQSPSSLSASVGDRTVITC	RASQIRNDLG	WYQKPGKAPK CLIY	VASSILQS	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	LQHNSYPWT	FGQGTKVEIK
	308	Germline	DIQMTQSPSSLSASVGDRTVITC	RASQSISSYLN	WYQKPGKAPK LLIY	AASSILQS	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	QQSYSTPIT	FGQGTRLEIK
2.16	142	O12/JK5	DIQMTQSPSSLSASVGDRTVITC	RTSQSISSYLN	WYQKPGKAPK LLIY	AASNLR	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	QQSSSTLIT	FGQGTRLEIK
2.19	156	"	DIQMTQSPSSLSASVGDRTVITC	RTSQSISSYLN	WYQKPGKAPK VLIY	AASNLR	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	QQSSSTLIT	FGQGTRLEIK
2.18	150	"	DIQMTQSPSSLSASVGDRTVITC	RTSQSISSYLN	WYHOKPGKAPK LLIY	AAFNLQS	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	QQSSSTLIT	FGQGTRLEIK
2.21	160	"	DIQMTQSPSSLSASVGDRTVITC	RTSQSISSYLN	WYQKPGKAPK LLIY	AAFNLQS	GVPSRFSGSGGTDFLTITISS LHPEDFATYYC	QQSSSTLIT	FGQGTRLEIK
309		Germline	QSVLTQPPSVSAAPGQKVTISC	SGSSNIGNNY VS	WYQQLPGTAPK LLIY	DNNKRPS	GIPDRFSGSKGTSATLIGITG LQTGDEADYYC	GTWDSLSAGV	FGGTKLITVL
3.1	164	V1-19/JL3	QSVLTQPPSVSAAPGQKVTISC	SGSSNIGNNY VS	WYQQLPGIAPK LLIY	DNNKRPS	GIPDRFSGSKGTSATLIGITG LQTGDEADYYC	GTWDSLSAGV	FGGTKLITVL
1.1	86	"	QSVLTQPPSVSAAPGQKVTISC	SGSSNIGNNY VS	WYQQFPGTAPK LLIY	DNNSRPS	GIPDRFSGSKGTSATLIGITG LQTGDEADYYC	GTWDSLSAGV	FGGTKLITVL
310		Germline	EIVMTQSPATLSVSPGERATLSC	RASQSVSSNLA	WYQKPGQAPR LLIY	GASTRAT	GIPARFSGSGGTDFLTITISS LQSEDFAVYYC	QQYNNWPIT	FGQGTRLEIK
3.8	184	L2/JK5	EIVMTQSPATLSVSPGERVTLSC	RASQSATSNLA	WYQKPGQAPR LLIY	GASTRAT	GIPARFSGSGGTDFLTITISS LQSEDFAVYYC	QQYNNWPFT	FGQGTRLEIK
	311	Germline	QSVLTQPPSVSAAPGQKVTISC	SGSSNIGNNY VS	WYQQLPGTAPK LLIY	DNNKRPS	GIPDRFSGSKGTSATLIGITG LQTGDEADYYC	GTWDSLSAGV	FGGTKLITVL
2.1	90	V1-19/JL2	QSALTQPPSVSAAPGQKVTISC	SGSSNIGSNY VS	WCQQLPRTAPK LLIY	DNNKRPS	GIPDRFSGSKGTSATLIVITG LQTGDEADYYC	GAWDSLSAGV	FGGTKLITVL
	312	Germline	DIQMTQSPSSVSASVGDRTVITC	RASQGISSWLA	WYQKPGKAPK LLIY	AASSILQS	GVPSRFSGSGGTDFLTITISS LQPEDFATYYC	QQANSFPWT	FGQGTKVEIK
2.9	122	L5/JK1	DIQMTQSPSSVSASVGDRTVITC	RASQGISSWLA	WYQKPGKAPK LLIY	AASSILQS	GVPSRFSGSGGTDFLTITISS LQPEDFASYC	QQANSFPWT	FGQGTKVEIK

Table 34, 2

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
	313	Germline	EIVMTQSPATLSVSPGERATL SC	RASQSVSSNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYNNWPLT	FGGKTKVEIK
4.11	216	L2/JK4	EIVMTQSPATLSVSPGERATL SC	RASQSVISNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYNNWPLT	FGGKTKVEIK
2.17	146	"	EIVMTQSPATLSVSPGERATL SC	RASQSVSSNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYNNWPLT	FGGKTKVEIK
	314	Germline	EIVMTQSPATLSVSPGERATL SC	RASQSVSSNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYNNWPF	FGPGTKVDIK
4.18	244	L2/JK3	EIVMTQSPATLSVSPGERATL SC	RASQSVTSNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYHTWPF	FGPGTKVDIK
2.15	138	"	EIVMTQSPSTLSVSPGERATL SC	RASQSVSSNLA	WYQQKPGQAPR LLIY	GASIRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYNNWPF	FGPGTKVDIK
4.19	248	"	EIVMTQSPSTLSVSPGERATL SC	RASQSVTSNLA	WYQQKPGQAPR LLIY	GASTRAT	GIPARFSGSGSGTEFTLTIS LQSEDAFVYVC	QQYHTWPF	FGPGTKVDIK
	315	Germline	QSVLTQPPSASGTPGQRTVIS C	SGSSNIGSNT VN	WYQQLPGTAPK LLIY	SNNQRPS	GVPDRFSGSKGTSASLAISG LQSEDAFYC	AAWDDSLNGPV	FGGKTKLTVL
4.10	212	V1-16/JL3	QSVLTQPPSASGTPGQRTVIS C	SGSSNIGSNT VN	WYQQLPGTAPK LLIY	SNNQRPS	GVPDRFSGSKGTSASLAISG LQSEDAFYC	AAWDDSLNGPV	FGGKTKLTVL
	316	Germline	SSELTQDPAVSVALGQTVRIT C	QGDSLRSYYAS	WYQQKPGQAPV LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	NSRDSGSHLV	FGGKTKLTVL
2.5	106	V2-13/JL3	SSELTQDPAVSVALGQTVRIT C	QGDSLRRYYAS	WYQQKPGQAPI LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	NSRDSGSHLV	FGGKTKLTVL
3.4	172	"	SSELTQDPAVSVALGQTVRIT C	QGDSLRRYYAS	WYQQKPGQAPI LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	NSRDSGSHLV	FGGKTKLTVL
	317	Germline	SYELTQPPSVSVSPGQTARIT C	SGDALPKKYAY	WYQQKSGQAPV LVIIY	EDSKRPS	GIPERFSGSSGTMATLTISG AQVEADAYC	YSTDSSGNHVV	FGGKTKLTVL
2.19	154	V2-7/JL2	SYELTQPPSVSVSPGQTARIT C	SGDALPKKYVY	WYQQKSGQAPV LVIIY	EDSKRPS	GIPERFSGSSGTMATLTING AQVEADAYC	YSTDSSGNHVV	FGGKTKLTVL
	318	Germline	DIQMTQSPSSLSASVGDRTVI TC	QASQDISNYLN	WYQQKPGKAPK LLIY	DASNLET	GVPSRFSGSGGTDFTFTISS LQPEDIATYVC	QQYDNLPI	FGQGTREIK
2.13	130	018/JK5	DIQMTQSPSSLSASVGDRTVI TC	QASQDISNYLN	WYQQKPGKAPK LLIY	DASNLET	GVPSRFSGSGGTDFTFTISS LQPEDIATYVC	HQCDNLPH	FGQGTREIK
	319	Germline	SSELTQDPAVSVALGQTVRIT C	QGDSLRSYYAS	WYQQKPGQAPV LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	NSRDSGSHVV	FGGKTKLTVL
2.3	98	V2-13/JL2	SSELTQDPAVSVALGQTVRIT C	QGDSLRIYYAS	WYQQKPGQAPV LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	KSRDSSFNHVT	FGGKTKLTVL
2.6	110	"	SSELTQDPAVSVALGQTVRIT C	QGDSLRLYYAS	WYQQKPGQAPI LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	NSRDSGSHVT	FGGKTKLTVL
4.3	192	"	SSELTQDPAVSVALGQTVRIT C	QGDSLRSYYAS	WYQQKPGQAPV LVIIY	GKNNRPS	GIPDRFSGSSGNTASLTITG AQAEADAYC	KSRDSSFNHVT	FGGKTKLTVL

Table 34, 3

CHAIN NAME	SEQ ID NO:		FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
4.8	204	"	SSELTQDPAVSVVALGQTVRIT C	QGDILRSYYAS	WYQQKPGQAPF LVIIY	GKNNRPS	GIPDRFSGSSSGNTASLTITG AQAEDEADYYC	KSRDSSYNHVT	FGGGTKLTVL
2.8	118	"	SSELTQDPAVSVVALGQTVRIT C	QGDSLRYYAS	WYQQKPGQAPF VVIY	GKKNRPS	GIPDRFSGSSSGNTASLTITG AQAEDEADYYC	KSRDSSGNHVT	FGGGTKLTVL
2.2	94	"	SSELTQDPAVSVVALGQTVRIT C	QGDSLRSYYAS	WYQQKPGQAPV LVIIY	GRNNRPS	GIPDRFSGSSSGLTASLTITG AQAEDEADYYC	NSRDSSYNHVA	FGGGTKLTVL
4.4	196	"	SSELTQDPAVSVVALGQTVRIT C	QGDILRSYYAS	WYQQKPGQAPV LVIIY	GKNNRPS	GIPDRFSGSSSGNTASLTITG AQAEDEADYYC	KSRDSSYNHVT	FGGGTKLTVL
	320	Germline	QSVLTQPPSVSGAPGQRVTIS C	TGSSSNIGAGY DVH	WYQQLPGTAPK LLIY	GNSNRPS	GVPDRFSGSKSGTSASLAITG LQAEDEADYYC	QSYDSSLGGSV	FGGGTKLTVL
3.2	168	V1-13/JL3	QSVLTQPPSVSGAPGQRVTIS C	TGSSSNIGAGY DVH	WYQQPFGTAPK LLIQ	GNSNRPS	GVPDRFSGSKSGTSASLAITG LQAEDEADYYC	QSYDSSLGGSV	FGGGTKLTVL
2.7	114	"	QSVLTQSPSVSGAPGQRVTIS C	TGSSSNIGAGY DVH	WYQQLPGTAPR LLIY	GNNNRPS	GVPDRFSGSKSGTSASLAITG LQAEDEADYYC	QSYDSSLGGSV	FGGGTKLTVL

Table 34, 4